

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Application. No: 10/082,783

Filed: 02/25/02

~~Inventor(s):~~

John P. Havener, Stephen Piche,  
Donald Semrad, Brian K.  
Stephenson

Title: METHOD FOR OPTIMIZING  
A PLANT WITH MULTIPLE  
INPUTS

Examiner: Bahta, Kidest

Group/Art Unit: 2125

Atty. Dkt. No: 5650-04210

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to Commissioner for Patents, Alexandria, VA 22313-1450, on the date indicated below.

Jeffrey C. Hood

8.22.06

Date \_\_\_\_\_

2022

**Signature**

**TRANSMITTAL OF POWER OF ATTORNEY AND  
NOTICE OF CHANGE OF ADDRESS**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir/Madam:

Please find attached a Power of Attorney with regard to the above-identified patent application. Applicant respectfully requests the Commissioner to change the correspondence address for the above-identified patent application. The old correspondence address was:

Howison & Arnott, L.L.P.  
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Applicant's new address is:

**Pavilion Technologies, Inc.**  
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If there are any questions regarding this matter, please contact me.

Respectfully submitted,

Q2

Jeffrey C. Hood  
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## POWER OF ATTORNEY

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P.O. Box 1450  
Alexandria, VA 22313-1450

PAVILION TECHNOLOGIES, INC., ("assignee"), a Delaware corporation having a place of business at 10415 Morado Circle, Building III, Suite 100, Austin, Texas 78758-5638, certifies that to the best of assignee's knowledge and belief it is the assignee of the entire right, title, and interest in and to the patents or patent applications listed on the attached Appendix A and represents that the undersigned is a representative authorized and empowered to sign on behalf of the assignee.

Assignee's ownership of the patents or patent applications listed on the attached Appendix A is indicated either by 1) the assignment(s) recorded with the U.S. Patent and Trademark Office at the reel and frame numbers listed on Appendix A or 2) Assignee's assertion that Assignee has reviewed the assignment documents that evidence the placement of title in the assignee, true and correct copies of which are attached hereto, and understands and believes that these assignment documents have been submitted for recordation in the U.S. Patent and Trademark Office.

Pursuant to 37 C.F.R. §§1.36 and 3.71, the assignee hereby revokes all powers of attorney previously given and appoints the following attorneys and/or agents in connection with the patent applications and patents identified in Appendix A, that are filed with the United States Patent and Trademark Office:

**the practitioners at Customer Number 35690, which currently includes:**

Mark K. Brightwell	Reg. No. 47,446	Mario J. Lewin	Reg. No. 54,268
Jason L. Burgess	Reg. No. 50,380	Lawrence J. Merkel	Reg. No. 41,191
Kay A. Colapret	Reg. No. 52,759	Eric B. Meyertons	Reg. No. 34,876
Steve J. Curran	Reg. No. 50,664	Dean M. Munyon	Reg. No. 42,914
Mark R. DeLuca	Reg. No. 44,649	Neal E. Persky	Reg. No. 53,452
Gaurav Goel	Reg. No. 56,804	David W. Quimby	Reg. No. 39,338
Russell E. Henrichs	Reg. No. 50,354	Rory D. Rankin	Reg. No. 47,884
Erik A. Heter	Reg. No. 50,652	Gareth M. Sampson	Reg. No. 52,191
Jeffrey C. Hood	Reg. No. 35,198	Chris D. Thompson	Reg. No. 43,188
B. Noël Kivlin	Reg. No. 33,929	Mark S. Williams	Reg. No. 50,658
Robert C. Kowert	Reg. No. 39,255	Martin R. Wojcik	Reg. No. 57,577

*each of said attorneys or agents being a member or an associate of the firm of Meyertons, Hood, Kivlin, Kowert & Goetzel, P.C., as its attorney or agent for so long as they remain with such firm, with full power of substitution and revocation, to prosecute the application, to make alterations and amendments therein, to transact all business in the Patent and Trademark Office in connection therewith, and to receive any Letters Patent, and for one year after issuance of such Letters Patent to file any request for a certificate of correction that may be deemed appropriate.*

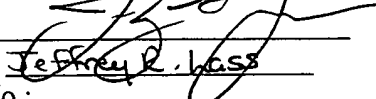


Pursuant to 37 C.F.R. §3.71, the assignee hereby states that prosecution of the above-referenced patent application is to be conducted to the exclusion of the inventor(s).

Send all future correspondence to: Jeffrey C. Hood  
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Dated: July 27, 2006

By:   
Name: Jeffrey R. Lass  
Reg. No.: \_\_\_\_\_  
Title: Vice President + CFO



# APPENDIX A

MHKKG Docket No.	Title	Inventor(s)	Date Filed	Serial No.	Date Issued	Patent No.	Assignment Recordation Reel/Frame Nos.
5650-04102	COORDINATED KILN CONTROL AND OPTIMIZATION	Gregory D. Martin, Eugene Boe, Stephen Piche, James David Keeler, Douglas Timmer, Mark Gerules and John P. Havener	02/21/06	11/359,114			010844/0464 (from parent)  015545/0855 (from parent)
5650-04200	METHOD AND APPARATUS FOR DYNAMIC AND STEADY STATE MODELING OVER A DESIRED PATH BETWEEN TWO END POINTS	Gregory D. Martin, Eugene Boe, Stephen Piche, James David Keeler, Douglas Timmer, Mark Gerules, John P. Havener	05/06/96	08/643,464	08/03/99	5,933,345	008107/0365 010405/0041 012252/0160 011944/0930
5650-04201	METHOD AND APPARATUS FOR MODELING DYNAMIC AND STEADY-STATE PROCESSES FOR PREDICTION, CONTROL AND OPTIMIZATION	Gregory D. Martin, Eugene Boe, Stephen Piche, James David Keeler, Douglas Timmer, Mark Gerules, John P. Havener	02/16/99	09/250,432	11/26/02	6,487,459	010405/0041 010321/0843 010452/0001 011944/0930 011958/0068
5650-04202	METHOD FOR STEADY-STATE IDENTIFICATION BASED UPON IDENTIFIED DYNAMICS	Stephen Piche, James David Keeler, Eric Hartman, William D. Johnson, Mark Gerules, Kadir Liano	10/03/97	08/943,489	04/04/00	6,047,221	009134/0855 010405/0041 012252/0160 010321/0843 010452/0001 011944/0930 011958/0068
5650-04203	METHOD FOR ON-LINE OPTIMIZATION OF A PLANT	Stephen Piche, John P. Havener, Donald Semrad	10/06/98	09/167,504	08/21/01	6,278,899	009558/0968 010405/0041 010321/0843 010452/0001 011944/0930 011958/0068
5650-04204	METHOD AND APPARATUS FOR CONTROLLING A NON-LINEAR MILL	Gregory D. Martin, Eugene Boe, Stephen Piche, James David Keeler, Douglas Timmer, Mark Gerules, John P. Havener	02/28/00	09/514,733	12/10/02	6,493,596	010844/0464
5650-04205	METHOD AND APPARATUS FOR CONTROLLING A NON-LINEAR MILL	Gregory D. Martin, Eugene Boe, Stephen Piche, James David Keeler, Douglas Timmer, Mark Gerules, John P. Havener	12/09/02	10/314,675	05/11/04	6,735,483	010844/0464 (from parent)  015545/0855



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MHKG Docket No.	Title	Inventor(s)	Date Filed	Serial No.	Date Issued	Patent No.	Assignment Recordation Reel/Frame Nos.
5650-04206	KILN THERMAL AND COMBUSTION CONTROL	Gregory D. Martin, Eugene Boe, Stephen Piche, James David Keeler, Douglas Timmer, Mark Gerules, John P. Havener	05/09/00	09/568,190	08/20/02	6,438,430	011484/0309 015541/0393
5650-04207	METHOD FOR OPTIMIZING A PLANT WITH MULTIPLE INPUTS	John P. Havener, Stephen Piche, Donald Semrad, Brian K. Stephenson	12/31/98	09/224,648	04/30/02	6,381,504	009779/0036 010405/0041 010321/0843 010452/0001 011958/0068
5650-04208	KILN THERMAL AND COMBUSTION CONTROL	Gregory D. Martin, Eugene Boe, Stephen Piche, James David Keeler, Douglas Timmer, Mark Gerules and John P. Havener	08/14/02	10/218,970	09/23/03	6,625,501	011484/0309 (from parent) 015541/0393 (from parent)
5650-04209	METHOD AND APPARATUS FOR MODELING DYNAMIC AND STEADY-STATE PROCESSES FOR PREDICTION, CONTROL AND OPTIMIZATION	Gregory D. Martin, Eugene Boe, Stephen Piche, James David Keeler, Douglas Timmer, Mark Gerules and John P. Havener	11/22/02	10/302,923	05/18/04	6,738,677	017240/0396 010405/0041 010321/0843 010452/0001 011944/0930 011958/0068 (all from parent)
5650-04210	METHOD FOR OPTIMIZING A PLANT WITH MULTIPLE INPUTS	John P. Havener, Stephen Piche, Donald Semrad, Brian K. Stephenson	02/25/02	10/082,783	09/27/05	6,950,711	017240/0396 009779/0036 010405/0041 010321/0843 010452/0001 011958/0068 (all from parent)



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MHKG Docket No.	Title	Inventor(s)	Date Filed	Serial No.	Date Issued	Patent No.	Assignment Recordation Reel/Frame Nos.
5650-04224	ROBUST MODELING OF DYNAMIC AND STEADY-STATE PROCESSES FOR PREDICTION, CONTROL AND OPTIMIZATION	Gregory D. Martin, Eugene Boe, Stephen Piche, James David Keeler, Douglas Timmer, Mark Gerules and John P. Havener	02/21/06	11/359,295			008107/0365 010405/0041 012252/0160 011944/0930 017240/0396 (all from parent) 010321/0843 010452/0001 011958/0068 (all from parent)
5650-04225	ROBUST MODELING OF DYNAMIC AND STEADY-STATE PROCESSES FOR PREDICTION, CONTROL, AND OPTIMIZATION	Gregory D. Martin, Eugene Boe, Stephen Piche, James David Keeler, Douglas Timmer, Mark Gerules and John P. Havener	02/21/06	11/359,296			008107/0365 010405/0041 012252/0160 011944/0930 017240/0396 (all from parent) 010321/0843 010452/0001 011958/0068 (all from parent)
5650-04300	METHOD AND APPARATUS FOR TRAINING A SYSTEM MODEL WITH GAIN CONSTRAINTS	Eric J. Hartman, Stephen Piche and Mark Gerules	09/14/99	60/153,791			N/A
5650-04303	METHOD AND APPARATUS FOR TRAINING A SYSTEM MODEL WITH GAIN CONSTRAINTS	Eric J. Hartman, Stephen Piche and Mark Gerules	04/03/06	11/396,486			008107/0365 010405/0041 012252/0160 011944/0930 017240/0396 (all from parent) 009134/0855 010321/0843 010452/0001 011958/0068 (all from parent) 009558/0968 (from parent)



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MHKKG Docket No.	Title	Inventor(s)	Date Filed	Serial No.	Date Issued	Patent No.	Assignment Recordation Reel/Frame Nos.
5650-04304	METHOD AND APPARATUS FOR TRAINING A SYSTEM MODEL WITH GAIN CONSTRAINTS	Eric J. Hartman, Stephen Piche and Mark Gerules	04/03/06	11/396,868			008107/0365 010405/0041 012252/0160 011944/0930 017240/0396 (all from parent) 009134/0855 010321/0843 010452/0001 011958/0068 (all from parent) 009558/0968 (from parent) N/A
5650-04400	KILN/COOLER CONTROL AND UPSET RECOVERY USING A COMBINATION OF MODEL PREDICTIVE CONTROL AND EXPERT SYSTEMS	Gregory D. Martin	03/15/01	60/276,272			N/A
5650-04401	KILN/COOLER CONTROL AND UPSET RECOVERY USING A COMBINATION OF MODEL PREDICTIVE CONTROL AND EXPERT SYSTEMS	Gregory D. Martin, Steven J. McGarel.	03/14/02	10/098,179	01/04/05	6,839,599	015545/0861 017240/0396
5650-04500	BAYESIAN NEURAL NETWORK FOR OPTIMIZATION	Eric Hartman, Carsten Peterson	10/06/98	60/103,269			N/A
5650-04501	BAYESIAN NEURAL NETWORKS FOR OPTIMIZATION AND CONTROL	Eric Jon Hartman, Carsten Peterson, Stephen Piche	04/12/99	09/290,791	04/20/2004	6,725,208	010023/0119 010405/0041 010321/0843 010452/0001 011944/0930 011958/0068 N/A
5650-04600	METHOD AND APPARATUS FOR MAXIMIZING POWER USAGE IN A POWER PLANT	John P. Havener	09/28/99	60/156,472			N/A
5650-04601	METHOD AND APPARATUS FOR MAXIMIZING POWER USAGE IN A POWER PLANT	John P. Havener	09/28/00	09/676,043	01/13/04	6,678,585	011424/0021



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MHKKG Docket No.	Title	Inventor(s)	Date Filed	Serial No.	Date Issued	Patent No.	Assignment Recordation Reel/Frame Nos.
5650-04700	METHOD AND SYSTEM FOR MONITORING AND CONTROLLING MANUFACTURING PROCESS PERFORMANCE INDICATORS	James D. Keeler, Edward S. Plumer and Joshua Breennan Ellinger	10/06/98	09/167,063			9675/0652
5650-04800	E-COMMERCE SYSTEM USING MODELING OF INDUCEMENTS TO CUSTOMERS	Edmond Herschap III, Timothy J. Magnuson, Thomas J. Traugher and Kasey White	01/19/01	60/262,935			N/A
5650-04900	RESIDUAL ACTIVATION NEURAL NETWORK	James D. Keeler, Eric J. Hartman, Kadir Liano and Ralph B. Ferguson	06/10/92	07/896,755	10/04/94	5,353,207	006239/0859 010121/0826 010405/0041 012252/0160 010321/0843 010452/0001 011944/0930 011958/0068
5650-04901	RESIDUAL ACTIVATION NEURAL NETWORK	James D. Keeler, Eric J. Hartman, Kadir Liano and Ralph B. Ferguson	09/16/94	08/307,521	09/24/96	5,559,690	006239/0859 (from parent) 010121/0826 010405/0041 012252/0160 011944/0930
5650-04902	RESIDUAL ACTIVATION NEURAL NETWORK	James David Keeler, Eric Jon Hartman, Kadir Liano and Ralph Bruce Ferguson	09/23/96	08/717,719	01/12/99	5,859,773	006239/0859 (from parent) 010121/0826 010405/0041 012252/0160 011944/0930



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MHKG Docket No.	Title	Inventor(s)	Date Filed	Serial No.	Date Issued	Patent No.	Assignment Recordation Reel/Frame Nos.
5650-04903	RESIDUAL ACTIVATION NEURAL NETWORK	James David Keeler, Eric Jon Hartman, Kadir Liano and Ralph Bruce Ferguson	01/12/99	09/228,962	03/26/02	6,363,289	006239/0859 (from parent) 010121/0826 (from parent) 010405/0041 010321/0843 011944/0930
5650-04904	RESIDUAL ACTIVATION NEURAL NETWORK	James David Keeler, Eric Jon Hartman, Kadir Liano and Ralph Bruce Ferguson	01/08/02	10/041,157	01/10/06	6,985,781	011944/0930 (from parent) 017240/0396
5650-05000	METHOD FOR TRAINING AND/OR TESTING A NEURAL NETWORK WITH MISSING AND/OR INCOMPLETE DATA	James David Keeler, Eric Jon Hartman and Ralph Bruce Ferguson	12/08/98	09/207,719	11/06/01	6,314,414	009483/0950 (from parent) 010321/0843 010452/0001 011944/0930 011958/0068 017240/0396
5650-05001	METHOD AND APPARATUS FOR OPERATING A NEURAL NETWORK WITH MISSING AND/OR INCOMPLETE DATA	James David Keeler, Eric Jon Hartman and Ralph Bruce Ferguson	11/06/01	10/040,085	07/08/03	6,591,254	009483/0950 (from parent) 010321/0843 010452/0001 011944/0930 011958/0068 017240/0396 (all from parent) 017240/0396



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MHKKG Docket No.	Title	Inventor(s)	Date Filed	Serial No.	Date Issued	Patent No.	Assignment Recordation Reel/Frame Nos.
5650-05002	METHOD AND APPARATUS FOR OPERATING A NEURAL NETWORK WITH MISSING AND/OR INCOMPLETE DATA	James David Keeler, Eric Jon Hartman and Ralph Bruce Ferguson	07/07/03	10/614,335	10-18-2005	6,957,203	009483/0950(from parent)  012252/0160(from parent)  010121/0826 010405/0041 010321/0843 010452/0001 011944/0930 011958/0068 (all from parent)  017240/0396
5650-05100	VIRTUAL CONTINUOUS EMISSION MONITORING SYSTEM WITH SENSOR VALIDATION	James D. Keeler, John P. Havener, Devendra Godbole and Ralph B. Ferguson	08/05/93	08/102,405	01/31/95	5,386,373	006659/0368 010405/0041 012252/0160 010321/0843 010452/0001 011944/0930 011958/0068 017240/0396
5650-05101	VIRTUAL CONTINUOUS EMISSION MONITORING SYSTEM	James D. Keeler, John P. Havener, Devendra Godbole and Ralph B. Ferguson, II	01/30/95	08/380,062	08/20/96	5,548,528	006659/0368 010405/0041 010321/0843 010452/0001 011958/0068 (all from parent)  012252/0160 011944/0930 017240/0396



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MHKKG Docket No.	Title	Inventor(s)	Date Filed	Serial No.	Date Issued	Patent No.	Assignment Recordation Reel/Frame Nos.
5650-05102	VIRTUAL EMISSIONS MONITOR FOR AUTOMOBILE	James D. Keeler, John P. Havener, Devendra Godbole and Ralph B. Ferguson, II	11/05/93	08/149,216	07/23/96	5,539,638	006659/0368 012252/0160 010321/0843 010452/0001 011944/0930 011958/0068 (all from parent)
5650-05103	VIRTUAL EMISSIONS MONITOR FOR AUTOMOBILE AND ASSOCIATED CONTROL SYSTEM	James David Keeler, John Paul Havener, Devendra Godbole and Ralph Bruce Ferguson, II	07/23/96	08/685,072	10/28/97	5,682,317	006659/0368 010321/0843 010452/0001 011958/0068 (all from parent)  006935/0138(from parent)  010405/0041 012252/0160 011944/0930 017240/0396



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MHKG Docket No.	Title	Inventor(s)	Date Filed	Serial No.	Date Issued	Patent No.	Assignment Recordation Reel/Frame Nos.
5650-05200	AUTOMATED METHOD FOR BUILDING A MODEL	James D. Keeler, Eric J. Hartman, Devendra B. Godbole, Steve Piche, Laura Arbila, Joshua Ellinger, R. Bruce Ferguson, II, John Krauskop, Jill L. Kempf, Steven A. O'Hara, Audrey Strauss and Jitendra W. Telang	06/05/01	09/874,591	04/12/05	6,879,971	006413/0016 010121/0826 012252/0160 (all from parent)  009501/0530 010405/0041 010321/0843 010452/0001 011944/0930 011958/0068 (all from parent)  017240/0396
5650-05300	METHOD AND APPARATUS FOR DETERMINING THE SENSITIVITY OF INPUTS TO A NEURAL NETWORK ON OUTPUT PARAMETERS	James David Keeler, Eric J. Hartman and Kadir Liano	06/03/96	08/656,702	10/20/98	5,825,646	010121/0826 010405/0041 010321/0843 010452/0001 011944/0930 011958/0068 017240/0396
5650-05301	METHOD AND APPARATUS FOR DETERMINING THE SENSITIVITY OF INPUTS TO A NEURAL NETWORK ON OUTPUT PARAMETERS	James David Keeler, Eric Jon Hartman and Kadir Liano	10/19/98	09/174,860	04/10/01	6,216,048	010121/0826(from parent) 010321/0843(from parent)  010405/0041 012252/0160 010452/0001 011944/0930 011958/0068 017240/0396



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MHKKG Docket No.	Title	Inventor(s)	Date Filed	Serial No.	Date Issued	Patent No.	Assignment Recordation Reel/Frame Nos.
5650-05400	METHOD AND APPARATUS FOR ANALYZING A NEURAL NETWORK WITHIN DESIRED OPERATING PARAMETER CONSTRAINTS	James David Keeler and Eric Jon Hartman	12/04/96	08/759,539	07/14/98	5,781,432	010121/0826 010405/0041 010321/0843 010452/0001 011944/0930 011958/0068 017240/0396
5650-05500	METHOD AND APPARATUS FOR AUTOMATICALLY CONSTRUCTING A DATA FLOW ARCHITECTURE	Devendra Bhalchandra Godbole, Steven Arthur O'Hara, Mary Anne Harding and Joshua Brennan Ellinger	05/25/95	08/450,086	06/16/98	5,768,475	007759/0726 010121/0826 010405/0041 012252/0160 011944/0930 017240/0396
5650-05501	METHOD AND APPARATUS FOR AUTOMATICALLY CONSTRUCTING A DATA FLOW ARCHITECTURE	Devendra Bhalchandra Godbole, Steven Arthur O'Hara, Mary Anne Harding and Joshua Brennan Ellinger	01/30/98	09/015,984	09/07/99	5,950,182	007759/0726 010121/0826 (all from parent) 010405/0041 012252/0160 011944/0930 017240/0396